is proposed by Mitchell and Moyle to account for the odd proton translocated by cytochrome *c* reductase in the presence of *N*-ethylmaleimide which should prove particularly provocative.

Considerable care has obviously been taken by the editor both in the choice of authors and material covered and the book should remain as a very valuable research source on the function and importance of quinones in biological systems for graduate and research workers for many years to come.

A.L. Moore

Heparin: New Biochemical and Medical Aspects

Proceedings of the Symposium of the Deutsche Gesellschaft für Klinische Chemie, Titisee, Breisgau, German Federal Republic, June 29th – July 1st, 1981

Edited by I. Witt

Walter de Gruyter; Berlin, New York, 1983

372 pages. DM 155.00

In the past eight years volumes of heparin symposium proceedings have appeared, on average, at eighteen month intervals (excluding the four Thrombosis and Haemostatis volumes containing ICTH Symposium abstracts, several hundred of which are concerned with heparin). In these circumstances 'New' must not be taken too literally, and of course there has been the inevitable delay between the symposium and the appearance of the book.

To a greater extent that usual the reported work is European, in particular from the host country. The plan is much like those of its predecessors: a section on structure, mechanism of action, biosynthesis and catabolism (4 papers), one on methods for determination (8 papers), one on clinical usage (6 papers) and finally one on experience with monitoring in heparin therapy (5 papers). This was therefore a relatively small symposium, but nevertheless it summarised in most respects the state of play in the heparin field.

A change in emphasis from that of earlier heparin symposia is evident. There is much more concerning release mechanisms and platelets, and in general a recognition of the many-sided nature of heparin interactions with less emphasis on antithrombin. It is more than a convenient collection of (perhaps) slightly out-of-date papers about heparin since, in common with some of the other symposium volumes, it includes condensed versions of the discussions which concluded each session. These offer useful and sometimes revealing sidelights on the preceding contributions. Although the biochemistry of heparin interactions is not neglected, there is considerable emphasis on the practice of heparin therapy, and, provided that time is available to the reader for detailed assessment and evaluation, this volume may be regarded as an excellent up-to-date guide to practice and management, bearing in mind, however, that other classes of anticoagulant are not considered at all. As an example, among matters sometimes given too little attention, variations in individual response to heparin treatment – and the consequent necessity for monitoring – are fully recognised. A matter for surprise – registered indeed by one of the contributors – is the apparent absence of any developments in the field of ultra-low dose heparin therapy as proposed by Negus in 1980, since to all appearance this could offer exceptional advantages.

It is unsurprising that numerous misprints should occur in a volume of this kind, and most of them are harmless enough. The first paper is however marred by a sequence of blunders which sets the reader to work transposing captions, inverting ratios and so forth, and it was a relief to find the second and subsequent papers decently presented. The book is intended for a specialist readership, and it is certainly worth the attention of those involved in the biochemistry of heparin and, even more, those involved in directing heparin therapy.

E.A. Johnson

Pathology of Immunoglobulins: Diagnostic and Clinical Aspects

Protein Abnormalities, Volume 2

Edited by Stephan E. Ritzmann

Alan R. Liss; New York, 1982

x + 396 pages. £29.00

This is the second volume in a series designed to present recent advances in the study of proteins of biological interest in laboratory and clinical medicine.

The first volume examined diagnostic methodology and interpretation of electrophoresis, immunoelectrophoresis and immunochemical measurement of proteins together with pathophysiologic considerations of antibody structure and function and a detailed account of IgE.

This second volume discusses the measurement of viscosity, imbalance of kappa/lambda ratios and electrolyte abnormalities and the anion gap in immunoglobulin disorders. Pathophysiologic consideration is given to the effect of aging and ethnic differences on immunoglobulin levels and abnormalities and to cell surface receptor proteins. A third section is devoted to clinical aspects of immunoglobulin abnormalities with a chapter on immunoglobulin deficiencies and five chapters on monoclonal gammopathies (paraproteinaemia): Clinical Aspects, Disorders of Hyperviscosity, Bence-Jones Proteins, Disorders of Amyloid Deposition, and Unusual Manifestations of Plasma Cell Dyscrasia.

This volume has the inherent faults of any multi-author book. There is overlap between some sections e.g. amyloid is discussed in chapters 8 and 11 with some variations in classification and interpretation. Similarly the hyperviscosity syndrome is discussed in chapters 8 and 9. Other information becomes fragmented and is not always to be found where expected e.g. chapter 4: 'Effects of Aging of Immunoglobulins' deals predominantly with old age and age-related paraproteinaemia. Values for normal immunoglobulins in children are found scattered in other chapters of this and the previous volume. There is lack of conformity in the use of units e.g. immunoglobulin values are quoted in IU/ml, g/dl, mg/dl and mg/ml, and International Units for the measurement of viscosity are not used.

The book is well supplied with figures and tables but these are not always placed at the most convenient point in the text for the reader.

It is much easier to criticise than to edit a book of this type. The contributors are experts in their fields and many chapters make excellent reviews. The bibliographies are comprehensive, current and valuable although there is no consistent format in the numbering of references (in some chapters in order of appearance, and in others alphabetical).

There is no current comparable book and this, with the previous volume, makes a valuable contribution to the subject. This book should appeal particularly to laboratory based workers with clinical interests and will be of greatest value to those who can familiarise themselves with the contents rather than as a work of reference.

Pamela Riches